

# PATENT ABSTRACTS OF JAPAN

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(71)Applicant : NAGAOKA AKIRA

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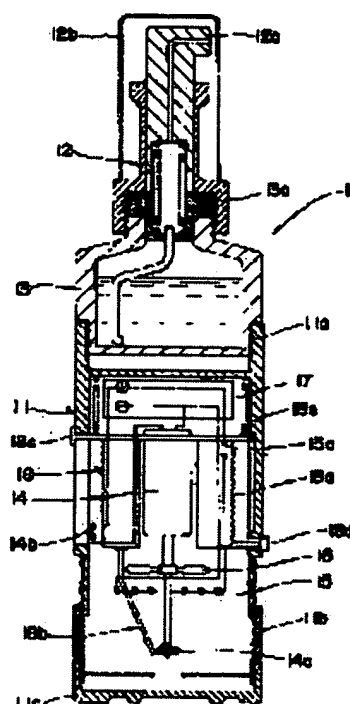
(72)Inventor : NAGAOKA AKIRA

## (54) CLOTHING STAIN-REMOVING TOOL

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide the removing tool having enough washing power to remove stain on that occasion when clothing is spoiled at the destination of going out and capable of putting on the clothing as it is after washing by housing a washing liquid casing, an electric brush, a heater, a fan and a battery.

**SOLUTION:** A cap 12b is detached and a proper amount of washing liquid is dripped onto the dirty part of the clothes. Next, a cap 11c is removed to reduce a bellows casing 18a and to operate the electric brush 14. Then a stain remover 10 is pressed to the washing part of the clothing by holding by a hand. At the same time when a brush 14a is rotated, extra washing liquid is sucked from the tip opening of a suction nozzle 18b to be accumulated with the bellows casing. After finishing washing, an auxiliary cylinder 11b is drawn and in the state of pressing its tip to the wet part of the clothes, the heater 15 and the fan 16 are operated to dry. At the time of making clothes dirt, dirt is removed by washing immediately and the clothing is dried speedily.



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CLAIMS

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[Claim(s)]

[Claim 1] The dirt dropping machine of the clothes which contained a liquid container, the electric brush, the heater, the fan, and the cell in the pocket mold case.

[Claim 2] The dirt dropping machine of the clothes according to claim 1 which put side by side the liquid suction device interlocked with actuation of said electric brush.

[Claim 3] The dirt dropping machine of the clothes according to claim 1 or 2 said whose liquid container is a container which holds separately the container or detergent which holds a detergent solution, and water.

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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the dirt dropping machine of the clothes of a pocket mold.

[0002]

[Description of the Prior Art] During going out, work, or a travel etc., a seasoning and food may be spilt or it may be sufficient for ink or a coating just, and it is sufficient for mud just in the case of a meal, it may carry out at it, and clothes may become dirty partially. In such a case, if he is not only shameful, but he leaves as it is long time impolite to the phase hand and visitor of work, become dirty, even if it washes later, dirt will stop being able to fall easily.

[0003] Then, when clothes become dirty during going out etc., the dirt dropping machine of the pocket mold for removing dirt on that spot is proposed. for example, in JP,60-215344,A By constituting by the wick material which is open for free passage the internal capsule which filled up the pocket type container with the detergent solution, and inside a container The pocket type stigma cleaner whose throwing away is possible is indicated. To JP,63-2795,U Between two vessel members which \*\*\*\* extensively on both sides of the dirt part of clothing, seal hold of the penetrant remover is carried out at one side, and the simple dirt dropping machine to which dirt can be dropped simple is indicated to the local dirt of clothes. When always carrying the dirt dropping machine of such a pocket mold and clothes become dirty, dirt can be removed temporarily on that spot.

[0004]

[Problem(s) to be Solved by the Invention] However, a stigma cleaner given in said JP,60-215344,A washes dirt by the wick material which the detergent solution was made to permeate, although it is a thing temporary [ how ], a detergency is inadequate and it is effective to light dirt, such as very small dirt and mud adhesion, etc., but when soy sauce, an oil, etc. adhere, for example, it is difficult for it to wash these to extent which is not conspicuous. Moreover, it is made on the assumption that throwing away, and it is not suitable for using it repeatedly.

[0005] Moreover, since JP,63-2795,U pinches the dirt part of the dirt dropping machine of a publication of clothing between openings of the vessel member containing a penetrant remover and it washes through a penetrant remover to the ground of clothes, the part into which after breadth and washing got wet broadly at the part with a penetrant remover large [ clothes ] is made, and there is a problem that the clothes cannot be worn continuously as it is. Moreover, since a penetrant remover is used up by one washing, it cannot be used repeatedly. In addition, when it considers as the structure which can carry out the reuse of the seal lid, if a penetrant remover is again put into a vessel member, a reuse can be carried out as a dirt dropping machine, but even in this case, unless it has the reserve of a penetrant remover with it separately, it cannot be repeatedly used during going out etc.

[0006] The purpose of this invention is in the dirt dropping machine of the clothes of a pocket mold to offer the dirt dropping machine of the clothes of the pocket mold which has sufficient detergency, and can wear clothes continuously after washing, and can be used repeatedly.

[0007]

[Means for Solving the Problem] The dirt dropping machine of the clothes of this invention is characterized by containing a liquid container, an electric brush, a heater, a fan, and a cell in a pocket mold case. Furthermore, the liquid suction device interlocked with actuation of said electric brush can also be put side by side.

[0008] When it walks around with the dirt dropping machine of the clothes of this invention at the time of going out and clothes are soiled at a going-out place, it is convenient to carry around, and the whole magnitude has in a hand the whole case, and it is usable magnitude and it contains instruments required to remove dirt into a case so that dirt can be removed on that spot.

[0009] a pocket mold case -- the case of the product made of synthetic resin, or metal -- it is -- the desirable both-ends side of a telescopic case body -- attachment and detachment -- it considers as wrap structure with an easy cap. In this case, a part fixes and contains a part in a case possible [ ejection ] among instruments required for dirt dropping.

[0010] A liquid container is the container which holds a detergent solution (water solution of a detergent) required for washing, or a container which holds water and a detergent, respectively, and use it as the desirable container made of elasticity synthetic resin, and let it be the container at which an initial complement can be made dropped small quantity every. You may fix to said case and may enable it to pick out these containers from a case at the time of use and a supplement of liquid.

[0011] A rotation drive is carried out by the cell, and an electric brush is pressed against the dirt part of the clothes which trickled a detergent solution or a detergent, and water, and removes dirt by rotation or reciprocation of a brush. The structure of a brush and especially a configuration are not limited and are good also as structure like the electric brush for toothbrushing, and a configuration. When the cap by the side of the end of a case is removed, this electric brush fixes the body of an electric brush in a case so that a brush part may be located in the outside of a case body.

[0012] A heater and a fan are for drying early the part into which the clothes after washing were damp. A heater is made into the structure of spraying the air which should prepare heating wire in the edge circles side of a case body, and was heated at this heater on the part into which clothes were damp with the fan. Here, it is desirable to establish the device which locks the switch of a heater so that it may not energize at a heater accidentally during carrying.

[0013] Although any of a battery charger or a dry cell are sufficient as a cell, since consumption of the cell by heater use is large, the battery charger is more desirable. In the case of a battery charger, the battery charger of a charge mold is always fixed in a case, and you may make it prepare the terminal for charge in a case body, and may make it charge it with a battery charger separately. In the case of a dry cell, it prepares in a case body, and it enables it to exchange the closing motion lid for cell receipts and payments at any time.

[0014] A liquid suction device is for preventing that an excessive detergent solution spreads on clothes, is interlocked with actuation of an electric brush and made into the device in which the detergent solution of a washing part is attracted. For example, the switch-on of actuation and an electric brush expanded from the condition of having compressed the elastic container is interlocked, and it considers as a device which sucks up the detergent solution of the part currently washed with the brush with a suction nozzle.

[0015] When carrying this dirt dropping machine by having contained the above instruments in the pocket mold case at the time of going out, and food is spilt, or mud splashes during a meal and clothes become dirty, the dirt dropping machine of the clothes of this invention can be washed immediately, and can remove dirt. Since the part which could remove dirt finely and got wet by the heater and the fan by using an electric brush especially can be dried quickly, clothes can be continuously worn as it is after washing. Moreover, when a liquid suction device is established, an excessive detergent solution can prevent spreading on clothes. Since it can be repeatedly used if there is a stub of a detergent solution, a detergent, and water, it is the the best for carrying on a prolonged business trip, a prolonged travel, etc.

[0016]

[Embodiment of the Invention] Drawing 1 is drawing showing the internal structure of the dirt dropping

machine of the clothes in the 1st operation gestalt of this invention. The dirt dropping machine 10 of this operation gestalt contains a package required for dirt dropping the detergent solution container 13 with regurgitation pump device 12, the electric brush 14, a heater 15, a fan 16, a battery charger 17, the detergent solution suction implement 18, etc. of instruments in the cylindrical case 11.

[0017] it is a case made of synthetic resin, the detergent solution container 13 is attached in the end side removable through screw 11a, and auxiliary tube 11b which can move forms a case 11 in an other end side -- having -- this auxiliary tube 11b -- attachment and detachment -- easy cap 11c is attached. By a diagram, although auxiliary tube 11b is a screw type, it is good also as a slide type with a lock device. Moreover, although not illustrated, the closing motion lid for receipts and payments of a battery charger 17 is formed in the case 11. Furthermore, the handle of lever 18c which served as the contraction actuation of bellows container 18a of the detergent solution suction implement 18 and the switch of the electric brush 14 which are mentioned later projects on the external surface of a case 11.

[0018] The detergent solution container 13 is a container made of elasticity synthetic resin, and is attached in the case 11 through screw 11a. The regurgitation pump device 12 for carrying out the little regurgitation of the detergent solution is attached in the opening edge of the detergent solution container 13 through screw 13a. This regurgitation pump device 12 is a conventionally well-known regurgitation device attached in the detergent container, the cosmetics container, etc., and the detergent solution in the detergent solution container 13 is breathed out from regurgitation nozzle 12a by pushing nozzle 12a from the upper part. When supplementing the detergent solution container 13 with a detergent solution, the regurgitation pump device 12 is removed and filled up. In addition, sign 12b shown with the alternate long and short dash line in drawing is a cap.

[0019] The electric brush 14 removes cap 11c of a case 11, and when auxiliary tube 11b is thrust into a body side or it pushes in, it is being fixed to the case 11 so that brush section 14a may be located in the outside of a case 11. A rotation drive is carried out with a battery charger 17, and this electric brush 14 presses brush section 14a against the dirt part of the clothes which trickled the detergent solution, and washes a dirt part by rotation of brush section 14a. Actuation switch 14b of the electric brush 14 is interlocked with depression of shift-lever 18c of the detergent solution suction implement 18 mentioned later, and operates.

[0020] A heater 15 and a fan 16 make it a set, and they are being fixed to the case 11 so that a heater 15 may be located in the edge of a case 11. This heater 15 uses a battery charger 17 as a power source, and a fan 16 makes the part into which clothes were damp with the fan 16 spray and dry the air heated at the heater 15, after it carries out coincidence rotation with the electric brush 14 and washing finishes. Actuation switch 15a of a heater 15 is prepared in the external surface of cap 11, and the device (not shown) which locks a switch is established so that it may not energize at a heater accidentally during carrying.

[0021] The detergent solution suction implement 18 consists of bellows container 18a and suction nozzle 18b, and is being fixed to the case body 11 in the form where cross-section doughnut-like bellows container 18a surrounds the idiosoma of the electric brush 14. Before the bellows container 18 is equipped with the spring (not shown) energized in the direction to elongate and the dirt dropping machine 10 is used for it, bellows container 18a is in the condition of having elongated like illustration. When operating this detergent solution suction implement 18, bellows container 18a is made to reduce by operating the handle of final-control-element 18c projected on the outside of a case 11, and depressing shift-lever 18c. If a hand is lifted from the handle of final-control-element 18c, it will elongate according to the force of the spring which is not illustrated, and bellows container 18a will attract a detergent solution with an excessive dirt part from suction nozzle 18b. At this time, expanding of bellows container 18a is slowly performed by operation of spring 18e. 18d of exhaust ports which discharge the detergent solution which the check valve (not shown) is prepared in the base of suction nozzle 18b, and the attracted detergent solution flowed backwards, and collected in the after [ suction ] container is prepared.

[0022] When shift-lever 18c is depressed after a detergent solution is dropped at the dirt part of clothes since depression of this shift-lever 18c is interlocked with and the actuation switch of the electric brush

14 operates, the electric brush 14 will operate, it will start dirt dropping, and an excessive detergent solution will be attracted from tip opening of suction nozzle 18b to coincidence.

[0023] In case the dirt dropping machine 10 of the above configuration is used, cap 12b is removed first, optimum dose dropping of nozzle 12a of the regurgitation pump device 12 to the detergent solution is carried out at the dirt part of clothes, and cap 12b is shut. Next cap 11c is removed, auxiliary tube 11b is brought near by the body side, and while operating the handle of final-control-element 18c of the detergent solution suction implement 18 and making bellows container 18a reduce, the electric brush 14 is operated. And as shown in drawing 2, it has the dirt dropping machine 10 in a hand, and brush section 14a of the electric brush 14 is pressed against the washing section of Clothes M. While dirt dropping is started by rotation of brush section 14a, an excessive detergent solution is attracted from tip opening of suction nozzle 18b, and the attracted detergent solution collects in the bellows container 18.

[0024] When cap 11c removed previously was applied to the background of the washing section like illustration at this time and the washing section is forced by brush section 14a of the electric brush 14, the washing section is supported by cap 11c, and it is hard coming to move the washing section with the level difference of 11d of cap 11c, and washing actuation is performed smoothly.

[0025] If washing finishes, the dirt dropping machine 10 will be lifted for a while so that brush section 14a may separate from the washing section, auxiliary tube 11b is pulled out from a body side, and it fixes, where the tip of auxiliary tube 11b is pressed against the washing section, a heater 15 is operated, and the part into which clothes were damp is dried. A fan 16 is attached in the revolving shaft of the electric brush 14, is rotating, and makes the part into which Clothes M were damp spray and dry the air heated at the heater 15. After desiccation can continue wear of clothes as it is. The dirt dropping machine 10 after use discharges the detergent solution which shut cap 11c, and filled up the detergent solution as occasion demands, and collected in the bellows container 18, and equips the next use with it.

[0026] According to the dirt dropping machine 10 of this operation gestalt, when clothes become dirty at the time of going out etc., it can wash immediately and dirt can be removed. Since the part which could remove dirt finely and got wet by the heater 15 and the fan 16 by using the electric brush 14 especially can be dried quickly, clothes can be continuously worn as it is after washing. Moreover, an excessive detergent solution can prevent spreading on clothes by having formed the detergent solution suction implement 18. Since it can be repeatedly used if there is a stub of a detergent solution, it is the the best for carrying on a prolonged business trip, a prolonged travel, etc.

[0027] drawing 3 shows the dirt dropping machine of the clothes in the 2nd operation gestalt of this invention -- it is a notching perspective view a part. The dirt dropping machine 20 of this operation gestalt contains a package required for dirt dropping the detergent container 22, the water container 23, the electric brush 24, a heater 25, a fan 26, a battery charger 27, the detergent solution suction implement 28, etc. of instruments in the flat telescopic case 21.

[0028] a case 21 -- the case made of synthetic resin -- it is -- the both ends of case body 21a -- attachment and detachment -- the easy caps 21b and 21c are attached. Moreover, although not illustrated, the closing motion lid for receipts and payments of a battery charger 27 is formed in the tooth-back side of case body 21a. Furthermore, final-control-element 28c of lever 28b which served as the flexible actuation of bellows container 28a of the detergent solution suction implement 28 and the switch of the electric brush 24 which are mentioned later projects in the transverse-plane side of case body 21a.

[0029] Both the detergent container 22 and the water container 23 are containers made of elasticity synthetic resin, can be taken freely in and out of a case 21, in case they are used, they are picked out from a case 21, they remove the caps 22a and 23a at a tip, and make an initial complement dropped small quantity every. If a residue decreases by use, it will supply suitably.

[0030] When cap 21b of a case 21 is removed, the electric brush 24 is being fixed to case body 21a so that brush section 24a may be located in the outside of case body 21a. A rotation drive is carried out with a battery charger 27, and this electric brush 24 presses brush section 24a against the dirt part of the clothes which trickled a detergent and water, and washes a dirt part by rotation of brush section 24a. The actuation switch (not shown) of the electric brush 24 is interlocked with lock discharge of shift-lever 28a

of the detergent solution suction implement 28 mentioned later, and operates.

[0031] A heater 25 and a fan 26 make it a set, and they are being fixed to case body 21a so that a heater 25 may be located in the edge of the case body 21. This heater 25 and fan 26 use a battery charger 27 as a power source, and make the part into which clothes were damp with the fan 26 spray and dry the air heated at the heater 25. The heater 25 and a fan's 26 actuation switch (not shown) are formed in the transverse-plane side of case body 21a, and the device which locks a switch is established so that it may not energize at a heater accidentally during carrying.

[0032] The detergent solution suction implement 28 consists of bellows container 28a and suction nozzle 28d, the electric brush 24 is adjoined, and bellows container 28a is being fixed to case body 21a. Bellows container 28a is equipped with the spring (not shown) energized in the direction to elongate, and it is in the condition of having reduced like illustration, before actuation. When operating this detergent solution suction implement 28, bellows container 28a is expanded according to the force of a spring (not shown) by operating final-control-element 28c projected on the outside of case body 21a, and canceling the lock (not shown) of shift-lever 28b. The exhaust port (not shown) which discharges the detergent solution which the check valve (not shown) is prepared in the suction nozzle 28d base, and the attracted detergent solution flowed backwards, and collected in the container is prepared.

[0033] When the lock of shift-lever 28b is canceled after a detergent and water are dropped at the dirt part of clothes since lock discharge of this shift-lever 28b is interlocked with and the electric brush 24 operates, the electric brush 24 will operate, it will start dirt dropping, and an excessive detergent solution will be attracted from suction nozzle 28d tip opening to coincidence.

[0034] In case the dirt dropping machine 20 of the above configuration is used, cap 21c is removed first, the detergent container 22 and the water container 23 are taken out, optimum dose dropping of a detergent and the water is carried out, the detergent container 22 and the water container 23 are returned to the location of a basis, and cap 21c is shut into the dirt part of clothes. Next cap 21b is removed, it has a case 21 single hand, brush section 24a of the electric brush 24 is pressed against the dirt section, and the lock of shift-lever 28b is canceled. By this, brush section 24a of the electric brush 24 rotates, it starts dirt dropping, and an excessive detergent solution is attracted from suction nozzle 28d tip opening to coincidence. The attracted detergent solution collects in bellows container 28a.

[0035] If washing finishes, the switch of the electric brush 24 will be turned OFF, subsequently, a heater 25 and a fan 26 are operated and the part into which clothes were damp is dried. After desiccation can continue wear of clothes as it is. The dirt dropping machine 20 after use discharges the detergent solution which shut cap 21b, and performed the supplement of a detergent and water as occasion demands, and collected in bellows container 28a, and equips the next use with it.

[0036] The electric brush 24, a heater 25, and a fan 26 can perform dirt dropping and desiccation quickly like [ in the dirt dropping machine 20 of this operation gestalt ] the dirt dropping machine 10 of drawing 1 . Moreover, a detergent solution more nearly excessive than use of the \*\*\*\*\* implement 28 can prevent spreading on clothes.

[0037]

[Effect of the Invention] The following effectiveness can be done so by this invention.

[0038] (1) Into a pocket mold case, when clothes become dirty by having contained a liquid container, the electric brush, the heater, the fan, and the cell at the time of going out etc., it can wash immediately and dirt can be removed. Since the part which could remove dirt finely and got wet by the heater and the fan by using an electric brush especially can be dried quickly, clothes can be continuously worn as it is after washing. Since it can be repeatedly used if there is a stub of a detergent solution, it is the the best for carrying on a prolonged business trip, a prolonged travel, etc.

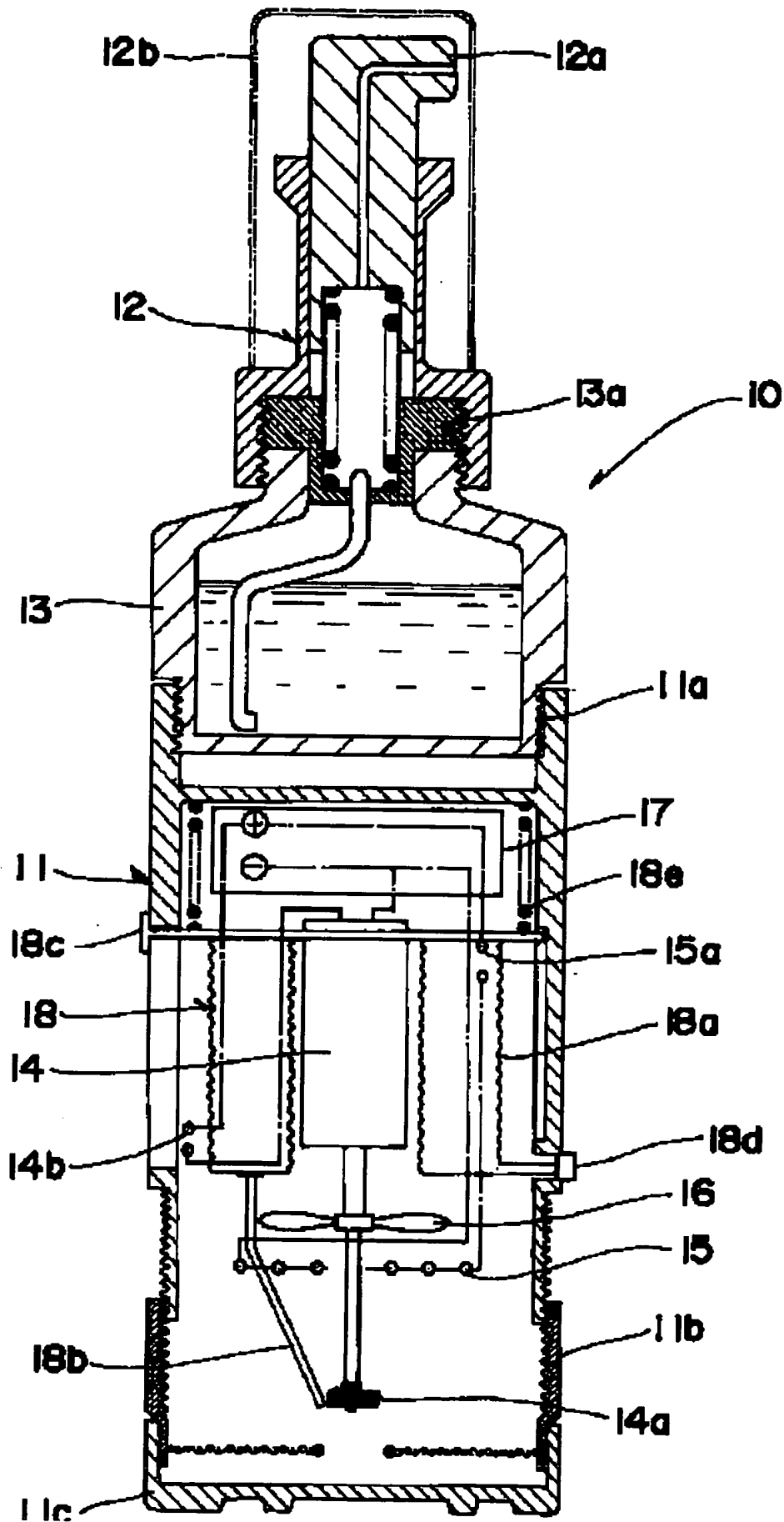
[0039] (2) When the liquid suction device interlocked with actuation of an electric brush is put side by side, an excessive detergent solution can prevent spreading on clothes.

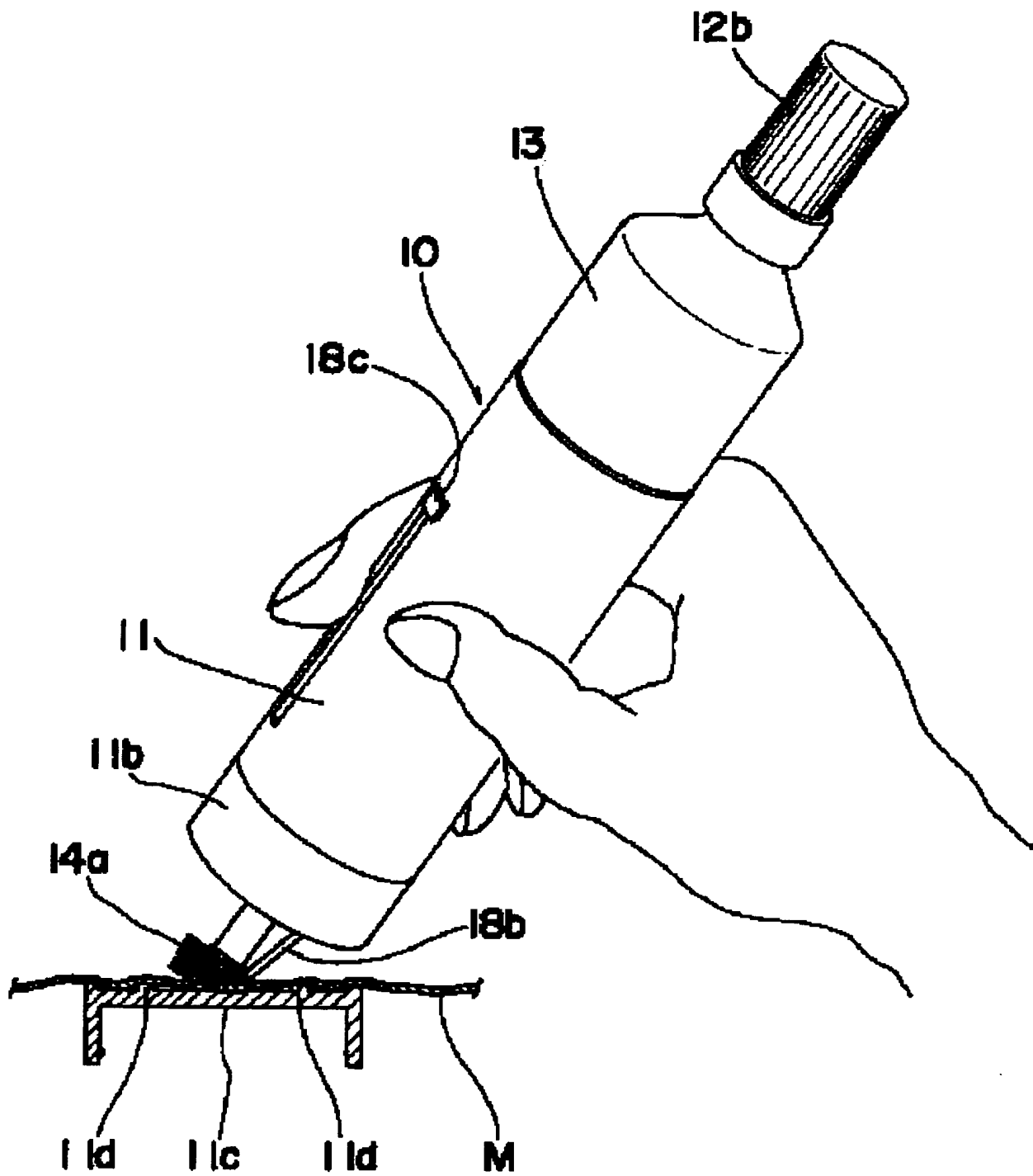
[0040] (3) It can be repeatedly used by filling up a detergent solution or a detergent, and water.

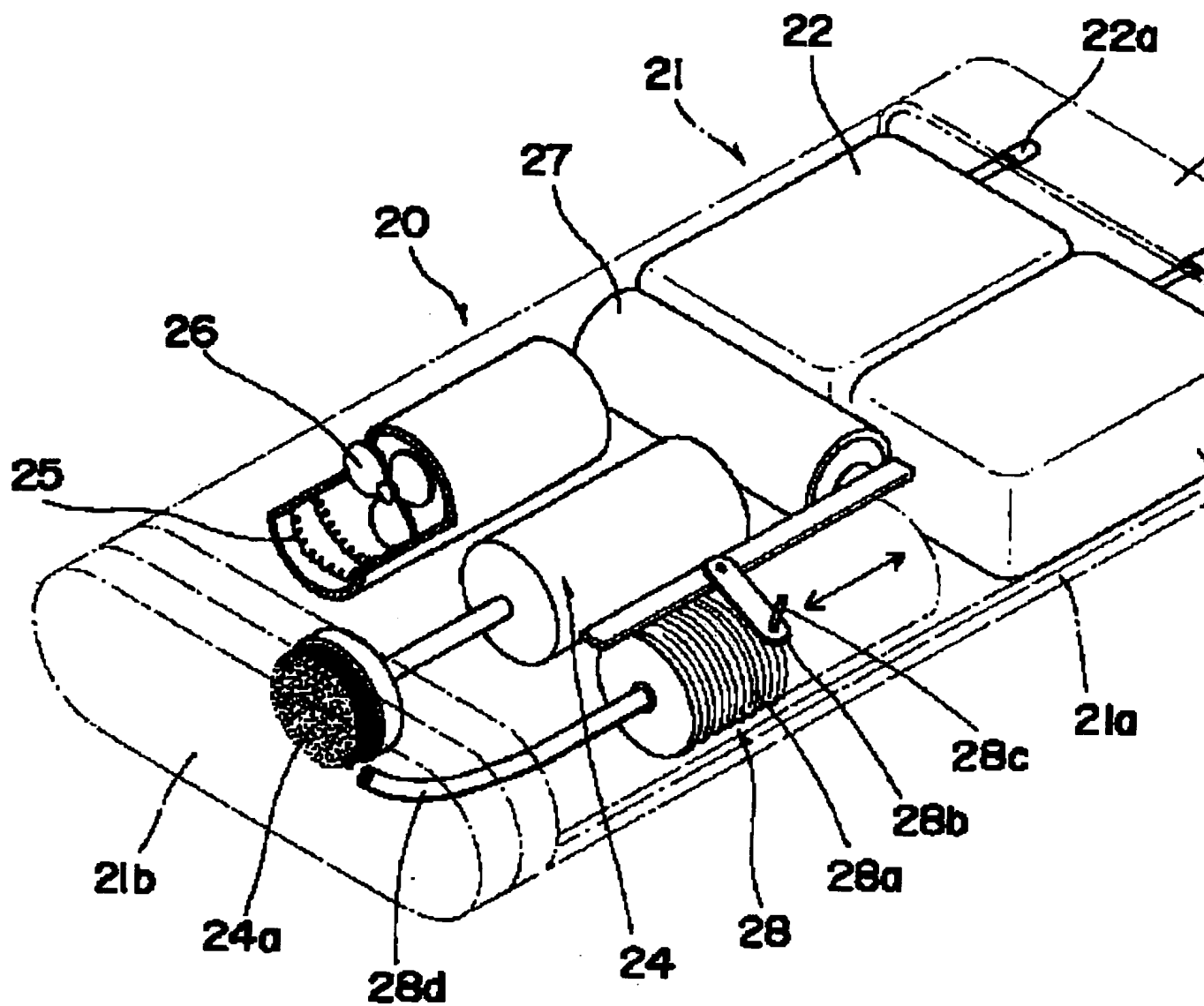
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